Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
One Winter Street Boston, MA 02108 • 617-292-5500

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

Background

2012 Regulatory Reform: Amendments to Air Pollution Control and Asbestos Regulations (310 CMR 7.00 and 310 CMR 7.15)

STATUTORY AUTHORITY: M.G.L. c. 111, Sections 142A through 142N

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2012 Regulatory Reform: Amendments to Air Pollution Control and Asbestos Regulations (310 CMR 7.00 and 310 CMR 7.15)

I. INTRODUCTION

To cope with the Massachusetts Department of Environmental Protection (MassDEP)'s budget cuts over the last decade and to align its existing resources with its responsibilities, the Department has undertaken a set of "regulatory reform" initiatives, which are intended to streamline specific agency operations while expanding on the significant streamlining efforts of recent years, without compromising MassDEP mission to protect public health, safety and the environment.

In March 2012, MassDEP published a list of 21 specific streamlining initiatives that will comprise this effort. One of these initiatives addressed revisions of the MassDEP regulation that governs the management of asbestos in renovating and demolishing structures (310 CMR 7.00, Air Pollution Control and 310 CMR 7.15 Asbestos). The revisions are being proposed to:

- Align MassDEP's regulations with the U.S. Environmental Protection Agency (EPA) requirements in the Asbestos Regulation of the National Emission Standards for Hazardous Air Pollutants (NESHAP);
- Change work practice requirements to provide flexibility for managing on-going construction and repair projects and to align MassDEP's requirements with those established by the Massachusetts Department of Labor Standard's Asbestos Regulations; and
- Add new definitions to clarify some aspects of 310 CMR 7.15.

II. BACKGROUND[1]

Asbestos is a naturally occurring mineral fiber that is distinguished from other minerals by its long thin fibers. Because of its fiber strength and heat and chemical resistant properties, asbestos has been used in a wide range of manufactured goods, particularly in building materials (e.g. roofing products, insulation, ceiling and floor tiles, paper products, and asbestos cement products), friction products (automobile clutch, brake, and transmission parts), heat-resistant fabrics, packaging, gaskets, and coatings.

Once extracted from the earth, asbestos-containing rock is crushed, milled (ground) and graded. This produces long, threadlike fibers of material. What actually appears as a fiber is an agglomeration of hundreds or thousands of fibers, each of which can be divided even further into microscopic fibrils.

Although asbestos has not been mined in the U.S. since 2002, the U.S. continues to import asbestos to manufacture various products. The United States Geological Survey in 2011 estimated annual asbestos consumption in the US at 1,100 tons, based on asbestos imports through July 2011[2]. Roofing products were estimated to account for about 60% of U.S. consumption.

[1] EPA Asbestos Worker Supervisor/Contractor Manual February 2004

[2] United States Geological Services Asbestos Statistics and Information
http://minerals.usgs.gov/minerals/pubs/commodity/asbestos/mcs-2012-asbes.pdf

III. USES OF ASBESTOS[3]

Asbestos has been used in literally thousands of products. Collectively, these are frequently referred to as asbestos-containing material (ACM). Asbestos gained widespread use because it is plentiful, readily available, and low in cost. Because of its unique properties – fire resistance, high tensile strength, and poor heat electrical conductivity, – asbestos proved well suited for many products used in the construction trades.

One of the most common uses for asbestos has been as a fireproofing material. It was sprayed on steel beams, columns and decking that were used in construction of multi-story buildings. This application prevented these structural members from warping or collapsing in the event of fire. As a constituent in sprayed-on fireproofing, asbestos comprised 5 – 95 percent of the fireproofing mixture and was commonly used in conjunction with vermiculite, sand, cellulose fibers, gypsum, and binder such as calcium carbonate. These materials are soft and may be fluffy in appearance and to the touch. They vary in color from white to dark gray; occasionally they have been painted or encapsulated with a clear or colored sealant. The material may be exposed or concealed behind a suspended ceiling. Application to structural members (beams and columns) often resulted in some material being sprayed on walls and ceilings as well. This is referred to as overspray.

Asbestos is added to a variety of building materials to enhance strength. It is found in concrete and concrete-like products. Asbestos-containing cement products generally contain Portland cement, aggregate, and chrysotile fibers. The asbestos content may range up to 50 percent by weight depending on the use of the product. Asbestos cement products are used as siding and roofing shingles; as wallboard; as corrugated and flat sheets for roofing, cladding, and partitions; and as pipes. Asbestos has also been added to asphalt, vinyl, and other materials to make products like roofing felts, exterior siding, floor tile, joint compounds and adhesives.

Asbestos fibers in cement, asphalt, and vinyl are usually firmly bound in the binder material and will for the most part be released only if the material is mechanically damaged, for example, by sanding, grinding, cutting, or abrading. Roofing shingles and siding may also show slow deterioration due to weathering.

As an insulator, asbestos received widespread use for thermal insulation and condensation control. It was often spray applied, trowel applied, or hand installed on or within equipment.

Asbestos proved valuable as a component of acoustical plaster. The material was applied by trowel or by spraying on ceilings and sometimes walls. It varies in color from white to gray – rarely was it painted because a noticeable loss of acoustical value would occur. As a decorative product, asbestos was mixed with other materials and sprayed on ceilings and walls to produce a soft, textured appearance.

IV. FRIABLE vs. NONFRIABLE ACM[4]

MassDEP distinguishes between friable and nonfriable forms of ACM. Friable mean material that, when dry, can be crumbled, shattered, pulverized or reduced to powder by hand pressure or mechanical

[3] EPA Asbestos Worker Supervisor/Contractor Manual February 2004

[4] EPA Asbestos Worker Supervisor/Contractor Manual February 2004

means. Other things being equal, friable ACM is thought to release fibers into the air more readily; however, nonfriable ACM can also release fibers if disturbed.

While it is often possible to "suspect" that a material or product is or contains asbestos by visual determination, actual determinations can only be made by microscopic analysis. EPA requires that the asbestos content of suspect materials be determined by collecting bulk samples and analyzing them by polarized light microscopy (PLM) or transmission electron microscopic (TEM). These bulk sampling techniques determine both the percent and type of asbestos in the sampled material.

V. HEALTH EFFECTS of ASBESTOS EXPOSURE[5]

When asbestos-containing materials are damaged or disturbed by repair, remodeling or demolition activities, microscopic fibers become airborne and can be inhaled into the lungs, where they can cause significant health problems. Continued exposure to airborne asbestos fibers over time can increase the amount of fibers that potentially are inhaled and remain in the lung. There is no established safe level of exposure to asbestos fibers and health impacts may not appear until 10 – 40 years after exposure.

The adverse health effects associated with asbestos exposure have been extensively studied. These studies have demonstrated that fibers embedded in lung tissue over time may lead to increased risk of developing one or more diseases such as asbestosis, lung cancer, and mesothelioma. That risk is significantly greater if the person(s) exposed also smokes.

Three of the major health effects associated with asbestos exposure includes:

- Asbestosis – Asbestosis is a serious, progressive, long-term non-cancer disease of the lungs. It is caused by inhaling asbestos fibers that irritate lung tissues and cause the tissue to scar. There is no effective treatment of asbestosis.

- Lung Cancer – Lung cancer causes the largest number of deaths related to asbestos exposure. People who work by mining, milling or manufacturing asbestos, and those who use products that contain asbestos are more likely to develop lung cancer than the general population.

- Mesothelioma – Mesothelioma is a rare form of cancer that is found in the thin lining (membrane) of the lung, chest, abdomen, and heart and almost all cases are linked to exposure to asbestos. This disease may not show up until many years after asbestos exposure.

VI. EPA REGULATIONS GOVERNING ASBESTOS

Following the enactment of the U.S. Clean Air Act of 1970, EPA identified asbestos as a hazardous pollutant and promulgated the Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) in March 1971. This rule is intended to minimize the release of asbestos fibers during activities involving the handling of asbestos. It specifies work practices to be followed during renovation, demolition, and other abatement activities when asbestos is involved. On April 6, 1973, EPA promulgated the Asbestos NESHAP Regulation in Title 40, Code of Federal Regulations, Part 61, Subpart M. On November 20, 1990, EPA promulgated revisions to the Asbestos NESHAP regulation to enhance compliance and enforcement. On June 17, 1994, EPA added Appendix A to the Asbestos NESHAP to clarify the regulation of roof removal operations involving asbestos.

[5] EPA Asbestos Worker Supervisor/Contractor Manual February 2004

Section 112 of the Clean Air Act (CAA), gives EPA the responsibility for enforcing regulations relating to asbestos renovation and demolition activities. The CAA also allows the EPA to delegate this authority to state and local agencies. However, even where EPA has delegated responsibility to a state or local agency, EPA retains authority to oversee the performance of the state program and to enforce the Asbestos NESHAP regulations, as necessary.

VII. MassDEP ASBESTOS PROGRAM

In 1976, EPA delegated implementation of its Asbestos NESHAP program to MassDEP. The delegation was contingent upon EPA's determination that MassDEP's regulations were sufficiently stringent to implement the Asbestos NESHAP. EPA determined that MassDEP's asbestos regulations (310 CMR 7.15) satisfied this criterion.

As with the Asbestos NESHAP, MassDEP's asbestos program is designed to protect public health and the environment from the uncontrolled release of asbestos fibers. In general, MassDEP requires that anyone who conducts renovation or demolition of structures that involve materials containing asbestos:

1. Notify MassDEP ten days before the work starts, which provides MassDEP with an opportunity to schedule a compliance inspection;
2. Hire a contractor who has the appropriate license and/or certification from the Massachusetts Department of Labor Standards to manage the ACM;
3. Follow specified work practices to minimize the potential for releasing asbestos fibers into the air; and
4. Manage asbestos containing waste material as a "Special" solid waste and dispose of it only in a landfill that has approval to receive this material.

These requirements affect a variety of stakeholders, including:

- Building Trades;
    - Asbestos Contractors
    - Plumbing and Heating Contractors
    - Home Improvement Contractors
    - Renovation/Demolition Contractors
    - Siding Contractors
    - Roofing Contractors
    - Window Contractors
    - Flooring Contractors
    - Utility Contractors
- Custodians/in-house maintenance crews;
- Construction and demolition debris Processors;
- Waste disposal companies;
- Site development contractors; and
- Property owners.

In 2011, MassDEP received approximately 16,000 notifications of asbestos abatements at a wide range of projects at commercial, institutional, and residential properties throughout the Commonwealth. Notifications are filed by the more than 170 Massachusetts asbestos contractors licensed by the MA

Department of Labor Standards, property owners, demolition/renovation contractors, and associated trade contractors (e.g. siding and flooring contractors). MassDEP conducts inspections of some of these projects to ensure that the removal of asbestos is being properly and safely managed. In addition, MassDEP follows up on complaints about potentially improper asbestos management. Violations of MassDEP's asbestos regulations can be enforced directly by the MassDEP or referred to the Office of the Attorney General. In fiscal year 2011, the MassDEP asbestos program completed over 100 enforcement actions for violations of the asbestos regulations. In addition, numerous criminal and civil enforcement cases developed by the MassDEP asbestos program were prosecuted by the Office of the Attorney General.

VIII. PROPOSED ASBESTOS REGULATORY REVISIONS

The current MassDEP regulation contains general language and lacks provisions to identify ACM in buildings that will be subject to demolition/renovation work. Additionally, the current regulation does not require air monitoring to clear abatement areas for occupancy at the end of asbestos removal projects, and does not require tracking of asbestos waste to ensure proper disposal.

The lack of a requirement in the existing regulation to survey a building or portion thereof that will be undergoing demolition/renovation has resulted in numerous instances of ACM being improperly handled and large quantities of demolition/renovation waste having to be disposed of as "asbestos contaminated," resulting in significant increases in development costs.

The current regulation provides little flexibility for obtaining waivers of the 10-day advance notification period for asbestos removal. This has led to situations where work at construction, demolition and renovation sites has been halted upon discovery of previously unidentified ACM and has resulted in significant increases in project costs as equipment and workers (which were mobilized for the construction) need to be demobilized while the regulatory issues are sorted out.

MassDEP's inclusion of all asbestos-related renovation and demolition projects in its notification requirements may not be necessary for projects conducted by homeowners at their own residence and involving only non-friable asbestos. This type of project is not regulated by EPA (the NESHAP does not apply to any asbestos work at buildings that house one to four families), and many states have developed a variety of "de minimus" thresholds that effectively allow homeowners to conduct this work without notifying the responsible state agency (although homeowners are encouraged to minimize the potential for the ACM to break, which in turn minimizes the potential to release fibers into the air). In general, only a small portion of the 16,000 notifications that MassDEP receives in a typical year are made by homeowners, and enforcing this notification requirement takes agency resources away from ensuring that larger jobs (with higher potential risks for public health if asbestos is managed improperly and released into the air) comply with regulatory requirements.

The proposed draft regulation addresses these and other issues and inconsistencies in the existing MassDEP asbestos regulation.

The proposed changes to MassDEP's asbestos regulation (310 CMR 7.15) will:

1. Align MassDEP's requirements with EPA's NESHAP. Specifically, MassDEP proposes to include the following requirements which are already included in EPA's NESHAP:

   i. Add a requirement to thoroughly inspect a facility, or the portion of the facility, that will be affected by the renovation or demolition work to identify any ACM before demolition or renovation work starts; and
   ii. Add a requirement establishing recordkeeping and reporting provisions for asbestos waste transport, storage, and disposal.
2. Add new definitions and revise others to increase clarity throughout 310 CMR 7.15.
3. Relieve owners of single-family, owner-occupied residences from the notification requirement for removal of specific types of non-friable asbestos-containing materials, while maintaining the requirement that the removal work must be done in accordance with the appropriate work practices. This provision would apply to work conducted by the homeowner and would be limited to non-friable ACM. To assist homeowners in understanding what requirements they need to follow for work practices and waste disposal, MassDEP will publish guidance and work with municipal officials and building supply stores to distribute the materials.
4. Align the specific work practice requirements for the removal of certain non-friable ACM with those that have been adopted by the Massachusetts Department of Labor Standards. This revision is intended to eliminate the need for MassDEP to spend resources on the development of policies needed to interpret potentially conflicting portions of the agencies' regulations, and will provide greater regulatory consistency for the asbestos abatement industry.
5. Create new work practice requirements for small operation and maintenance projects involving specific types of commonly encountered ACM: flooring products (vinyl asbestos flooring and sheet flooring), and gypsum wallboard/joint compound systems. Projects involving 100 square feet or less of asbestos-containing flooring and/or mastic, and projects involving 32 square feet or less of asbestos-containing gypsum wallboard and/or joint compound, would be exempt from notification, as long as the work is conducted in accordance with the procedures established in the proposed revisions.
6. Create an application and approval process to facilitate MassDEP approval of alternative work practices in situations where one-size-fits-all solutions (e.g.. fire damaged or structurally unsound buildings, high voltage settings, etc.) do not allow for innovative and cost-effective abatement methods that provide the necessary environmental and public health protection, while taking into account the need for quick action that accommodates constraints of particular sites or situations.

The table below summarizes the key proposals.

Highlights of Proposed Asbestos Regulatory Changes

Existing Regulatory Requirements	Proposed Regulatory Requirements
MassDEP does not require a thorough inspection of areas of a facility to be renovated or demolished prior to commencing work. However, this is a current requirement of the Asbestos NESHAP.	Require a thorough survey to determine the presence of ACM prior to renovation or demolition.
MassDEP regulation does not require the use and maintenance of asbestos waste shipment records. However, this is a current requirement of the Asbestos NESHAP.	Require owner/operators to utilize and maintain specific asbestos waste shipment records.
MassDEP currently requires owners of single family owner occupied residences to notify the agency ten days in advance of any asbestos abatement conducted at their property.	Eliminate current requirement for owners of owner-occupied single-family residences to notify for removal of certain non-friable ACM, if the homeowner does the abatement. However, the regulation would require that all work be done in accordance with necessary work practice requirements and waste disposal.
Current regulation generally describes required asbestos removal work practices but lacks specific direction on removal procedures for commonly encountered materials. MassDEP has had to develop policies and interpretations of its regulation to respond to a variety of approaches to removal of a wide range of asbestos-containing products. Furthermore because Department of Labor Standards (DLS) regulations contain more specific work practices. The agencies' regulations have appeared to be inconsistent.	Establish specific work practice requirements for certain non-friable ACM that are consistent with DLS regulations.
Current regulation has no provision for small scale operation and maintenance projects, and requires notification for any amount of ACM removal.	Create material-specific work practice requirements for small operation and maintenance projects involving flooring products and gypsum wallboard/joint compound systems that contain asbestos. Projects that meet the O&M criteria would be exempt from the notification requirements.
Current regulation does not provide flexibility to address unique situations where traditional asbestos abatement is not possible or practical, and only generally describes the required asbestos removal work practices.	Establish a process and framework to allow alternative work practices in cases where "one size fits all" solutions are not appropriate. This encourages cost-effective and innovative abatement methods.

IX. Outreach

To complement these regulatory revisions, MassDEP intends to increase its public outreach efforts. Specifically, MassDEP plans to reach out to local officials (e.g. boards of health and building departments) to enlist their support in distributing guidance for homeowners in their communities that explains how to conduct asbestos abatements safely and the applicable regulatory requirements. In addition, MassDEP plans to increase its outreach to building trades (plumbing and heating contractors, home improvement contractors, flooring contractors, and siding contractors), to raise awareness of the regulatory requirements, safe practices for working with various asbestos-containing materials, and the potential health impacts for workers (including trades people) and the public if asbestos removal projects result in releases of asbestos to the environment.

X. Comments

MassDEP is particularly interested in receiving comments on:

1. The provision of the proposed regulation at 310 CMR 7.15(4)(e) – Homeowner Notification Exemption that exempts owners of owner-occupied single-family residences from notification for removal of certain non-friable ACM while still requiring that all work be done in accordance with necessary work practice requirements.
2. The provision of the proposed regulation at 310 CMR 7.15(14) – Work Practice Requirements for Asbestos Operations and Maintenance Projects or Work.
3. The provisions of the proposed regulations at 310 CMR 7.15(11) through (13) - that provide material specific work practice requirements